

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. – 8. (Canceled).

9. (Previously Presented) A data transmission apparatus for performing data communication based on optical transmission, comprising:

a transmitting unit for converting and sending electric communication data to be transmitted into optical communication data;

a photoelectric conversion circuit for receiving said optical communication data and converting said received optical communication data into received electric communication data; and

a variable setting unit for setting said photoelectric conversion circuit to generate received electric communication data in response to an input level of said received optical communication data,

wherein said photoelectric conversion circuit comprises:

a light receiving unit for generating a current based on said received optical communication data; and

a signal generating unit for generating said received electric communication data based on said current generated by said light receiving unit,

a comparator for comparing a current, the value of which indicates a magnitude of said current generated by said light receiving unit, with a reference current, and for generating said received electric communication data,

and wherein said variable setting unit comprises a variable current supply for setting said photoelectric conversion circuit by adding a predetermined current to said reference current or by subtracting a predetermined current from the current, the

value of which indicates the magnitude of said current generated by said light receiving unit,

wherein said optical communication data is digital data, and said variable current supply subtracts a current value, which is substantially half said current generated by said light receiving unit when said optical communication data indicates H logic, from said current value generated by said light receiving unit.

10. (Previously Presented) A data transmission apparatus for performing data communication based on optical transmission, comprising:

- a transmitting unit for converting and sending electric communication data to be transmitted into optical communication data;

- a photoelectric conversion circuit for receiving said optical communication data and converting said received optical communication data into received electric communication data; and

- a variable setting unit for setting said photoelectric conversion circuit to generate received electric communication data in response to an input level of said received optical communication data,

wherein said photoelectric conversion circuit comprises:

- a light receiving unit for generating a current based on said received optical communication data; and

- a signal generating unit for generating said received electric communication data based on said current generated by said light receiving unit,

- a comparator for comparing a current, the value of which indicates a magnitude of said current generated by said light receiving unit, with a reference current, and for generating said received electric communication data,

and wherein said variable setting unit comprises a variable current supply for setting said photoelectric conversion circuit by adding a predetermined current to said

reference current or by subtracting a predetermined current from the current, the value of which indicates the magnitude of said current generated by said light receiving unit,

wherein said optical communication data is digital data, and said variable current supply subtracts a substantially average current value of the current generated by said light receiving unit when said optical communication data indicates H logic and the current generated by said light receiving unit when said optical communication data indicates L logic, from said current value indicating said magnitude of said current generated by said light receiving unit.

11. (Previously Presented) A data transmission apparatus for performing data communication based on optical transmission, comprising:

- a transmitting unit for converting and sending electric communication data to be transmitted into optical communication data;
- a photoelectric conversion circuit for receiving said optical communication data and converting said received optical communication data into received electric communication data; and
- a variable setting unit for setting said photoelectric conversion circuit to generate received electric communication data in response to an input level of said received optical communication data,

wherein said photoelectric conversion circuit comprises:

- a light receiving unit for generating a current based on said received optical communication data; and
- a comparator for comparing a current, the value of which indicates a magnitude of said current generated by said light receiving unit, with a reference current, and for generating said received electric communication data,

and wherein said variable setting unit comprises a variable current supply for setting said photoelectric conversion circuit by adding a predetermined current to said reference current or by subtracting a predetermined current from the current, the value of which indicates the magnitude of said current generated by said light receiving unit,

wherein said optical communication data is digital data, and said variable current supply adds a current value, which is substantially half said current generated by said light receiving unit when said optical communication data indicates H logic, to a value of said reference current.

12. (Previously Presented) A data transmission apparatus for performing data communication based on optical transmission, comprising:

- a transmitting unit for converting and sending electric communication data to be transmitted into optical communication data;
- a photoelectric conversion circuit for receiving said optical communication data and converting said received optical communication data into received electric communication data; and
- a variable setting unit for setting said photoelectric conversion circuit to generate received electric communication data in response to an input level of said received optical communication data,

wherein said photoelectric conversion circuit comprises:

- a light receiving unit for generating a current based on said received optical communication data; and
- a comparator for comparing a current, the value of which indicates a magnitude of said current generated by said light receiving unit, with a reference current, and for generating said received electric communication data,

and wherein said variable setting unit comprises a variable current supply for setting said photoelectric conversion circuit by adding a predetermined current to said reference current or by subtracting a predetermined current from the current, the value of which indicates the magnitude of said current generated by said light receiving unit,

wherein said optical communication data is digital data, and said variable current supply adds a substantially average current value of the current generated by said light receiving unit when said optical communication data indicates H logic and the current generated by said light receiving unit when said optical communication data indicates L logic, to a value of said reference current.

13. (Canceled).

14. (Previously Presented) A test apparatus for testing an electronic device, comprising:

a pattern generating unit for generating a test signal to test said electronic device;

a waveform adjusting unit for adjusting said test signal;

a test head for contacting said electronic device;

a data transmission apparatus for transmitting data between said waveform adjusting unit and said test head; and

a judging unit for judging quality of said electronic device based on an output signal outputted by said electronic device in response to said test signal,

wherein said data transmission apparatus comprises:

a transmitting unit for converting and sending said test signal into optical communication data;

a photoelectric conversion circuit for receiving said optical communication data and converting said received optical communication data into said test signal; and

a variable setting unit for setting said photoelectric conversion circuit to generate a predetermined test signal in response to an input level of said received optical communication data,

wherein said photoelectric conversion circuit comprises:

a light receiving unit for generating a current based on said received optical communication data; and

a comparator for comparing a current, the value of which indicates a magnitude of said current generated by said light receiving unit, with a reference current, and for generating said test signal,

and wherein said variable setting unit comprises a variable current supply for setting said photoelectric conversion circuit by adding a predetermined current to said reference current or by subtracting a predetermined current from the current, the value of which indicates the magnitude of said current generated by said light receiving unit.

15. (Canceled).

16. (Previously Presented) The test apparatus as claimed in claim 14, wherein said reference current is generated by a current supply.

17. (Previously Presented) The test apparatus as claimed in claim 14, further comprising:

a laser diode for generating data; and

a plurality of optical waveguides for propagating data.

18. – 30. (Canceled).